The claims defining the invention are as follows:

1. A method for communicating between a first station and a second station over a distribution medium, comprising the steps of:

   The first station sending an alternating power signal over the distribution medium, the alternating power signal comprising a plurality of communication symbols;

   The second station receiving the alternating power signal and determining therefrom the communication symbols;

   The second station drawing current from the alternating power signal in a sequence corresponding to at least one further communication symbol;

   The first station determining the current drawn in the alternating power signal to recover the further communication symbol.

2. The method of claim 1, wherein the alternating power signal has a substantially square wave-form, and has substantially equally proportions of positive and negative components, averaged over time.

3. The method of claim 2, wherein the step of the second station drawing current comprises the second station drawing current during a positive component and a negative component of the alternating power signal.

4. The method of claim 3, wherein the second station is arranged to draw current during the positive component of the alternating power signal in a sequence corresponding to at least one further communication symbol, and to repeat said current draw in the negative compenent of the alternating power signal.

5. The method of claim 3, wherein the second station is arranged to draw current during a substantially centrally located portion of the positive component and negative component of the alternating power signal.

6. The method of claim 3, wherein the second station is arranged to draw current adjacent each rising edge and falling edge of the alternating power signal.

7. The method of claim 1, wherein the step of the second station drawing current further comprises the second station not deriving power from the alternating power signal for other purposes while drawing current corresponding to said at least one further communication symbol.

8. The method of claim 1, wherein the communications symbols comprise '1', '0', 'idle', and 'sync'.

9. The method of claim 8, wherein the '0' symbol is represented by equal portions of positive and negative components in the alternating power signal, and the '1' symbol is represented by unequal portions of positive and negative components in the alternating power signal, and the proportion of positive and negative components in the alternating power signal representing a '1' symbol is alternated each time a '1' symbol is sent.

10. The method of claim 1, wherein the plurality of communication symbols form a stream, selected from one of:

A command stream comprising a sync symbol, an instruction byte, and a plurality of station instructions;

An idle stream comprising a sync symbol, and a plurality of idle symbols;

A instruction stream, comprising a sync symbol, an instruction byte, a station address, and station data.

11. The method of claim 10, wherein there are a plurality of second stations, each second station having an address, each second station responsive to station instruction/data at a position in the command stream corresponding to their address, and said step of each second station drawing current comprises each second station drawing current during an idle pulse at a position in the command stream corresponding to their address.

12. The method of claim 10, wherein one said instruction byte corresponds to an instruction to activate or deactivate each remote station, each second station activating or deactivating according to the corresponding station instruction is a '1' symbol or a '0' symbol, respectively.

13. The method of claim 12, wherein each second station is arranged to count the number of other second stations that have been activated before it, and to activate at an offset from said sync pulse corresponding to said number of other second stations.

14. An apparatus for communicating with at least one second station over a distribution medium, comprising:

Means for providing an alternating power signal over the distribution medium, the alternating power signal comprising a plurality of communication symbols; and

Control means arranged determine current draw in the alternating power signal to recover at least one further communication symbol from a second station.

15. The apparatus of claim 14, wherein the means for providing an alternating power signal comprises a power switching circuit connected to and operating under control of the control means, the power switching circuit operable to provide an alternating power signal over said distribution medium.

16. The apparatus method of claim 15, wherein the power switching circuit is arranged to provide an alternating power signal that has a substantially square wave-form, and has substantially equally proportions of positive and negative components, averaged over time.

17. The apparatus of claim 14, wherein the communications symbols comprise '1', '0', 'idle', and 'sync'.

18. The apparatus of claim 17, wherein the '0' symbol is represented by equal portions of positive and negative components in the alternating power signal, and the '1' symbol is represented by unequal portions of positive and negative components in the alternating power signal, and the proportion of positive and negative components in the alternating power signal representing a '1' symbol is alternated each time a '1' symbol is sent.

19. The apparatus of claim 15, wherein the control means is arranged to control the power switching circuit to form the alternating power signal from a plurality of communication symbols forming a stream, selected from one of:

A command stream comprising a sync symbol, an instruction byte, and station instructions;

An idle stream comprising a sync symbol, and a plurality of idle symbols;

A instruction stream, comprising a sync symbol, an instruction byte, a station address, and station data.

20. The apparatus of claim 14, wherein the control means is arranged to determine current draw during a substantially centrally located portion in each positive component and negative component of the alternating power signal.

21. The apparatus of claim 14, wherein the control means is arranged to determine current draw adjacent each rising edge and falling edge of the alternating power signal.

22. An apparatus for communicating with a first station over a distribution medium, comprising:

Means for receiving an alternating power signal comprising a plurality of communication symbols over the distribution medium, and for recovering the communication symbols therefrom; and

Control means arranged to draw current from the alternating power signal in a sequence corresponding to at least one further communication symbol.

23. The apparatus of claim 22, wherein the control means is arranged to draw current during a positive component and a negative component of the alternating power signal.

24. The apparatus of claim 22, wherein the control means is arranged to draw current during the positive component of the alternating power signal in a sequence corresponding to at least one further communication symbol, and to repeat said current draw in the negative portion of the alternating power signal.

25. The apparatus of claim 24, wherein the second station is arranged to draw current during a substantially centrally located section in a positive component and negative component of the alternating power signal.

26. The apparatus of claim 24, wherein the second station is arranged to draw current adjacent each rising edge and falling edge of the alternating power signal.

27. The apparatus of claim 22, wherein second station is arranged not to derive power from the alternating power signal during the prescribed section other than the current draw.

28. The apparatus of claim 22, wherein the means for recovering is arranged to recover a plurality of communication symbols forming a stream, and to decode said stream into one of:

A command stream comprising a sync symbol, an instruction byte, and station instructions;

An idle stream comprising a sync symbol, and a plurality of idle symbols;

A instruction stream, comprising a sync symbol, an instruction byte, a station address, and station data.

29. The apparatus of claim 28, wherein said apparatus has an address, said means for recovering being responsive to station instruction/data at a position in the command stream corresponding to the address, said control means arranged to draw current during an idle pulse at a position in the command stream corresponding to the address.

30. The apparatus of claim 29, wherein said control means is arranged to count the number of other apparatus that have been activated before it, and to activate at an offset from said sync symbol corresponding to said number of other apparatus.

31. A method for controlling a plurality of second stations, comprising the steps of:

Distributing power to the second stations via a distribution medium;

Distributing a reference datum to said second stations; and

Activating said second stations at a prescribed offset from the reference datum.

32. The method of claim 31, wherein the alternating power signal has a substantially square wave-form, and has substantially equally proportions of positive and negative components, averaged over time.

33. The method of claim 31, wherein the step of distributing a reference datum further comprises the step of distributing a plurality of activation marks after the reference datum.

34. The method of claim 31, wherein the reference datum comprises a predetermined sequence of positive and negative components in the alternating power signal.

35. The method of claim 34, wherein the activation marks comprise a further predetermined sequence of positive and negative components in the alternating power signal after the reference datum.

36. The method of claim 31, wherein the step of activating second stations comprises the step of sending instructions to each second station whether or not to activate embedded in said activation marks.

37. An apparatus for controlling a plurality of second stations connected to the apparatus by a distribution medium, the apparatus comprising:

Means for providing power to the second stations via a distribution medium; and

Control means arranged to provide a reference datum to the second stations and to instruct each second station to activate, each second station responsive to the instruction to activate at a prescribed offset from the reference datum.

38. The apparatus of claim 37, wherein the means for providing power comprises a power switching circuit connected to and operating under control of the

control means, the power switching circuit operable to provide an alternating power signal over said distribution medium.

39. The apparatus of claim 38, wherein the power switching circuit is arranged to produce an alternating power signal that has a substantially square waveform, and has substantially equally proportions of positive and negative components, averaged over time.

40. The apparatus of claim 38, wherein the control means is further arranged to provide a plurality of activation marks after the reference datum.

41. The apparatus of claim 38, wherein the control means is arranged to provide the reference datum by controlling the power switching circuit to produce a predetermined sequence of positive and negative components in the alternating power signal.

42. The apparatus of claim 41, wherein the control means is arranged to provide the activation marks by controlling the power switching circuit to produce a further predetermined sequence of positive and negative components in the alternating power signal after the reference datum.

43. The apparatus of claim 40, wherein the control means is arranged to provide instructions to each second station by controlling the power switching circuit to produce a prescribed sequence of alternating positive and negative components in the alternating power signal as the activation marks, each activation mark corresponding to an instruction to a second station whether or not to activate.